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| EXAMINER |
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LEE, PHILIP C

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| ART UNIT | PAPER NUMBER |
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2154

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DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/726,766

Applicant(s)

DAVIDSON ET AL.

Examiner

Philip C Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2000.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-40 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-40 are presented for examination.
2. It is noted that although the present application does contain line numbers in the specification and claims, the line numbers in the claims do not correspond to the preferred format. The preferred format is to number each line of every claim, with each claim beginning with line 1. For ease of reference by both the Examiner and Applicant all future correspondence should include the recommended line numbering.
3. The specification is objected to because of the following informalities and grammar errors, page 18 (line 34), tunneling header 116 [i.e. element 116 is not shown in fig. 2].
Appropriate correction is required.

Claim Rejections – 35 USC 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7, 10-16, 18-21, 23-25 and 28-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Araujo et al, U.S. Patent 6,301,229 (hereinafter Araujo) in view of Singhal et al, U.S. Patent 6,633,761 (hereinafter Singhal).

6. As per claims 1 and 12, Araujo taught the invention as claimed for communicating with an element within an enterprise network, comprising:

at a first client, encapsulating a first point-to-point protocol signal within a protocol header (col. 2, lines 1-4; col. 9, lines 13-15; col. 14, lines 44-50); and

communicating the encapsulated signal toward a tunneling server (col. 9, lines 34-36; col. 6, lines 1-3, 32-38).

7. Araujo did not specifically teach encapsulating a network address request header. Singhal taught encapsulating a dynamic host configuration protocol request into a request message (col. 9, lines 37-41).

8. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Araujo and Singhal because Singhal's method of encapsulating a dynamic host configuration protocol request would increase the efficiency of Araujo's system by allowing the process of address determination to be included in a packet in a point-to-point communication session.

9. As per claim 19, Araujo taught the invention as claimed for tunneling in an enterprise network comprising a plurality of clients coupled to a tunneling server (col. 8, lines 66-col. 9, lines 8) by at least one router (col. 7, lines 17-31), the method comprising:

at a first client, generating point-to-point protocol signal (col. 4, lines 21-33; col. 6, lines 1-5; col. 7, lines 32-42);
encapsulating the point-to-point protocol signal within a protocol header (col. 2, lines 1-4; col. 9, lines 13-15; col. 14, lines 44-50);
communicating the encapsulated tunneling signal toward a tunneling server (col. 9, lines 34-36; col. 6, lines 1-3, 32-38) operable to identify and remove the protocol header (col. 13, lines 37-47), to encapsulate the point-to-point protocol signal within a protocol response header, and to communicate the protocol response encapsulated signal toward a second client (col. 13, lines 34-36, 48-56).

10. Araujo did not specifically teach encapsulating a network address request header. Singhal taught encapsulating a dynamic host configuration protocol request into a request message (col. 9, lines 37-41).

11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Araujo and Singhal because Singhal's method of encapsulating a dynamic host configuration protocol request would increase the efficiency of Araujo's system by allowing the process of address determination to be included in a packet in a point-to-point communication session.

12. As per claims 24 and 37, Araujo taught the invention as claimed comprising at least one client coupled to a tunneling server by a router having a routing table indexed by data channel addresses (fig. 1), a first client comprising:

a protocol stack operable to generate a first point-to-point protocol signal (col. 4, lines 21-33; col. 6, lines 1-5; col. 7, lines 32-42); and

a tunneling module operable to encapsulate the first point-to-point encapsulated signal within a protocol header (col. 2, lines 1-4; col. 9, lines 13-15; col. 14, lines 44-50);

wherein the first client is operable to communicate the protocol request encapsulated signal toward the router for forwarding to the tunneling server (col. 9, lines 34-36; col. 6, lines 1-3, 32-38) without reference to the routing table (col. 13, lines 50-54; col. 14, lines 14-19).

13. Araujo did not specifically teach encapsulating a network address request header. Singhal taught encapsulating a dynamic host configuration protocol request into a request message (col. 9, lines 37-41).

14. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Araujo and Singhal because Singhal's method of encapsulating a dynamic host configuration protocol request would increase the efficiency of Araujo's system by allowing the process of address determination to be included in a point-to-point communication session.

15. As per claim 33, Araujo taught the invention as claimed wherein a client (element 10, fig. 1) having an enterprise protocol stack operable to process signals received from a data channel and associated with a data channel address (col. 3, lines 11-24), the client comprising:

a tunneling module operable to receive a first point-to-point protocol signal encapsulated within a protocol response header and to remove the protocol response header to expose the first point-to-point protocol signal (col. 3, lines 21-26); and
a private protocol stack operable to receive the first point-to-point protocol signal from the tunneling module and to communicate at least a portion of a payload of the first point-to-point protocol signal to a socket layer coupled to an application residing at the client (col. 3, lines 21-26, 40-43; col. 4, lines 41-46).

16. Araujo did not specifically teach encapsulating a network address response header. Singhal taught encapsulating a dynamic host configuration protocol response into a response message (col. 10, lines 1-5).

17. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Araujo and Singhal because Singhal's method of encapsulating a dynamic host configuration protocol response would increase the efficiency of Araujo's system by allowing the process of address determination to be included in a point-to-point communication session.

18. As per claims 2, 25 and 38, Araujo and Singhal taught the invention as claimed in claims 1, 24 and 37 above. Singhal further taught wherein the network address request header comprises a Dynamic Host Configuration Protocol DISCOVER header or a Bootstrap Protocol REQUEST header (col. 5, lines 21-31; col. 9, lines 36-41).

19. As per claims 3, 13 and 20, Araujo and Singhal taught the invention as claimed in claims 1, 12 and 19 above. Araujo further taught wherein communicating the network address request encapsulated signal toward a tunneling server comprises communicating the signal toward a router configured to relay network address requests to the tunneling server (col. 7, lines 17-31) without referencing a routing table indexed by data channel addresses (col. 13, lines 50-54; col. 14, lines 14-19).

20. As per claims 4, 14, 21 and 28-29, Araujo and Singhal taught the invention as claimed in claims 3, 13, 20 and 24 above. Araujo further taught wherein the first point-to-point protocol signal comprises a control channel address of a second client, the control channel address being different from any data channel address recognized by the router (col. 9, lines 21-30).

21. As per claims 5 and 15, Araujo and Singhal taught the invention as claimed in claims 1 and 12 above. Singhal further taught wherein the first point-to-point protocol signal comprises a payload including information to be applied to an application residing at a second client (col. 9, lines 60-62).

22. As per claims 6, 30 and 35, Araujo and Singhal taught the invention as claimed in claims 5, 28 and 33 above. Singhal further taught wherein the application residing at the second client comprises a maintenance application operable to diagnose operational characteristics of the second client (col. 14, lines 3-6).

23. As per claims 7 and 16, Araujo and Singhal taught the invention as claimed in claims 1 and 12 above. Singhal further taught wherein the first point-to-point protocol signal comprises a payload including at least a portion of an application to be installed on a second client (col. 9, lines 60-62).

24. As per claims 10, 18, 23 and 31, Araujo and Singhal taught the invention as claimed in claims 1, 12, 19 and 24 above. Singhal further taught comprising receiving a network address response encapsulated signal from the tunneling server, the network address response encapsulated signal comprising a second point-to-point protocol signal responsive to the first point-to-point protocol signal and encapsulated within a network address response header (col. 9, lines 36-col. 10, lines 7).

25. As per claims 11, 32 and 34, Araujo and Singhal taught the invention as claimed in claims 1, 31 and 33 above. Singhal further taught wherein the network address response header comprises a Dynamic Host Configuration Protocol OFFER header or a Bootstrap Protocol RESPONSE header (col. 10, lines 1-5).

26. As per claim 36, Araujo and Singhal taught the invention as claimed in claim 33 above. Singhal further taught wherein the application comprises an application operable to process the at least a portion of the payload and to generate an output to be communicated toward another network element (col. 9, lines 60-62; col. 14, lines 1-12).

27. Claims 8-9, 17, 22, 26-27 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Araujo and Singhal in view of "Official Notice".

28. As per claims 8, 17, 22, 26 and 39, Araujo and Singhal taught the invention as claimed in claims 1, 12, 19, 24 and 33 above. Araujo and Singhal did not specifically detailing encapsulation of both tunneling header and network address request header. However, Araujo taught comprising encapsulating protocol header with the first point-to-point protocol signal to facilitate a tunneling session between the first client and the tunneling server (col. 14, lines 44-50). "Official Notice" is taken for the concept of multi-protocol signal is known and accepted in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Araujo's and Singhal's teachings by providing an extension to the point-to-point signal with tunnel header for encapsulating a network address request header because by doing so would increase the efficiency of Araujo's and Singhal's systems by allowing the process of address determination to be included in a packet in a point-to-point tunnel session.

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29. As per claims 9, 27 and 40, Araujo and Singhal taught the invention as claimed in claims 8, 26 and 39 above. Araujo further taught wherein the tunneling header comprises a tunneling header selected from the group consisting of a Layer Two Tunneling Protocol (L2TP) header, a Point-to-Point Tunneling Protocol (PPTP), or a Layer Two Forwarding (L2F) header (col. 5, lines 1-4; col. 9, lines 4-15).

CONCLUSION

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lim et al, U.S. Patent 5,884,024, disclosed a system for a secure DHCP relay agent that forwards DHCP messages between the client systems and the DHCP servers.

31. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.


32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C Lee whose telephone number is (703)305-7721. The examiner can normally be reached on 8 AM TO 5:30 PM Monday to Thursday and every other Friday.

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33. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703)305-8498. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

34. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)350-6121.

P.L.


ZARNI MAUNG
PRIMARY EXAMINER